Ten Years Later—

A Case Study in North Logan for Low Impact Design

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Outline of presentation

Background

Study Objectives

Process

Ordinance and Technical Guidelines

Implementation

Future Recommendations

Background

North Logan experiencing significant community growth

Residential roadways constructed to City standards:

50” ROW- 30’ pavement width-minor residential
60’ ROW- 39’ pavement width-major residential

Lack of green space in the ROW

Having to go back into new streets for street calming

Losing rural character

Design Study Objectives

2001 Low Impact Development- Roadway Study

Maintain rural character in North Logan

Reduce stormwater runoff, improve quality

Incorporate Low Impact Development concepts

Revise standards for paved roadway section

Meet AASHTO guidelines, public safety

New ordinance and technical guidance

Process

Working meetings with City staff and Council

Public Open Houses

Development of new street cross-sections with landscaped swales and sidewalks

Development of new technical guidelines

Development of swale use and landscaping guidance

Draft ordinance to allow Low Impact Roadways

Study Partners

Utah Assoc. of Conservation Districts

Received grant from EPA

USU- Botanical Garden

Developed xeriscape plant list and suggested landscape design

Results

Low Impact Roadway Pavement Widths

- Collector—reduced from 43’ to 32’ (26% reduction)
- Major Residential- reduced from 39’ to 28’ (28% reduction)
- Minor Residential – reduced from 30’ to 25’ (17% reduction)

Reduction in stormwater runoff

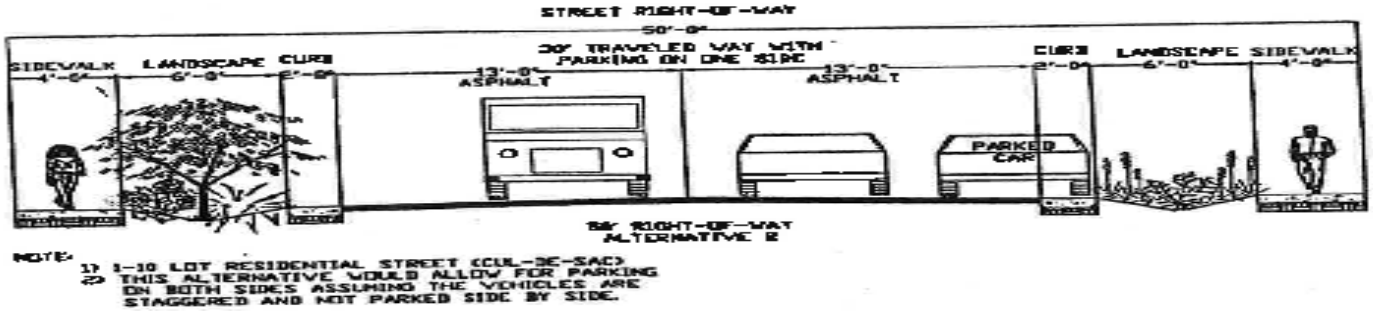
- Collector—12-15% reduction
- Major Residential- 10-14% reduction
- Minor Residential –5-7% reduction

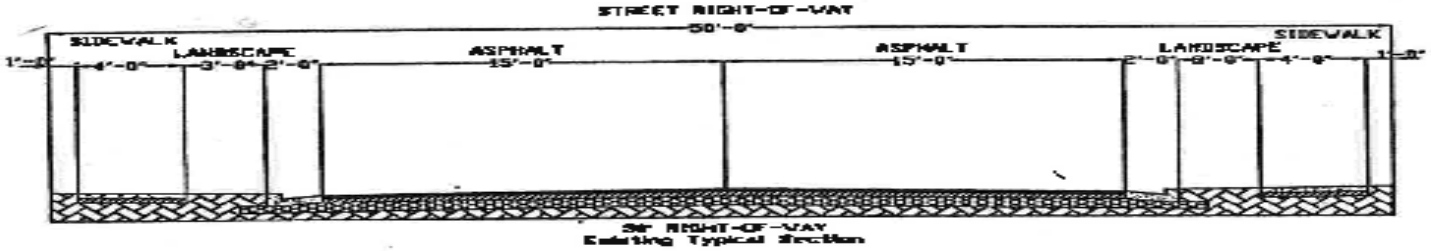
Increase in green space in ROW

- Collector—125% increase
- Major Residential- 125% increase
- Minor Residential –86% increase

Increase in stormwater quality- reduced pavement swales conveyance

50’ Right of Way Street





General Plan, Ordinance and Technical Manual

General Plan

Revised to include provision for Low Impact Roadway Design

Ordinance

Title 11 Streets and Public Ways

Technical Manual

Chapter 600- Soils, Revegetation and Landscaping
Chapter 700 – Subdivision Infrastructure Improvements
Chapter 800—Design Standards

Implementation

Design Objectives Met?

- Environmental
- Financial
- Safety
- Cultural

Advantages vs. Disadvantages

Future Recommendations

Environmental

Stormwater:

"*They (the swales) eliminate a great deal of runoff. Water accumulates and infiltrates in the strips.*"

-Local Resident

Financial

Construction:

~34% less expensive to install.

Maintenance:

Sealant Costs Reduced

Snow Removal Concerns

Street Sweeping

"Anything that gets dropped on the road washes into our swale. Not a big deal--We just pick it up and throw it away."

-Local Resident

Safety

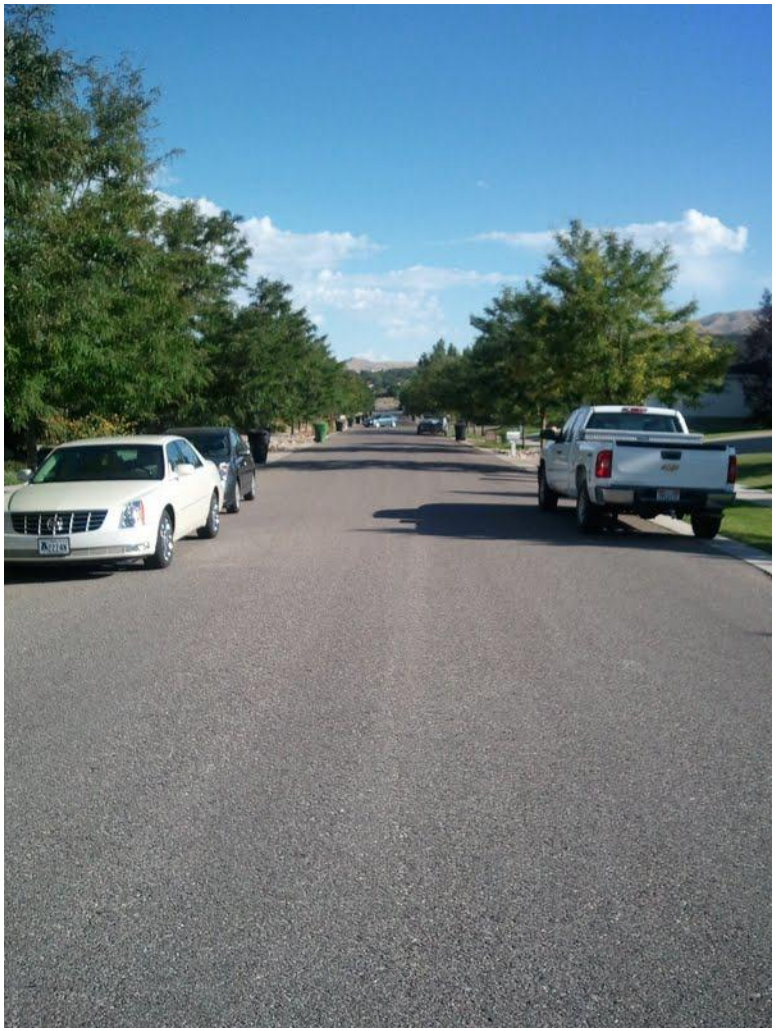
LIR Design does, in fact, reduce traffic speed

"I like the roadway design. I know some don't like the narrow road, but I do. I think it keeps the speed of cars slower."

-Local Resident

"The road is too narrow and does not provide any parking space."

-Local Resident



Cultural

Xeriscape Designs (Meet Original Objectives)

“My wood chips float away after a large storm.”

-Local Resident

Cultural

Cobblestones or Brick Design

"The neighborhood look untidy because the swale is not finished consistently."

-Local Resident

Cultural

Turf Design: *"Next time put trees in the center of the swale."*

"*We like the swale design.*" -Local Resident

Advantages & Disadvantages

Advantage

- Stormwater Infiltration.
- Less Street Sweeping
- Cheaper to Construct
- Cheaper to Maintain
- Safer for Pedestrians & Children
- Preserve Rural Character

Disadvantage

- Snow Removal
- Harder to Implement (Culturally New)
- Can be Difficult to Navigate in a Vehicle
- Reduced Parking

Future Recommendations

Develop a variation of the LIR Design that fits the financial and cultural values of the Neighborhood or Community

- Rural vs. Urban Usage of Swale
- Water Availability
- Landscaping Preferences (Develop a Standard Landscaping Design that is Easy to Implement and Maintain.)
- Application on Collector vs. Arterial streets

Future Recommendations

Once adapted LIR design is created, communicate clearly to developer & homeowner exactly what is expected:

Road Design (oil width & swale width/depth).

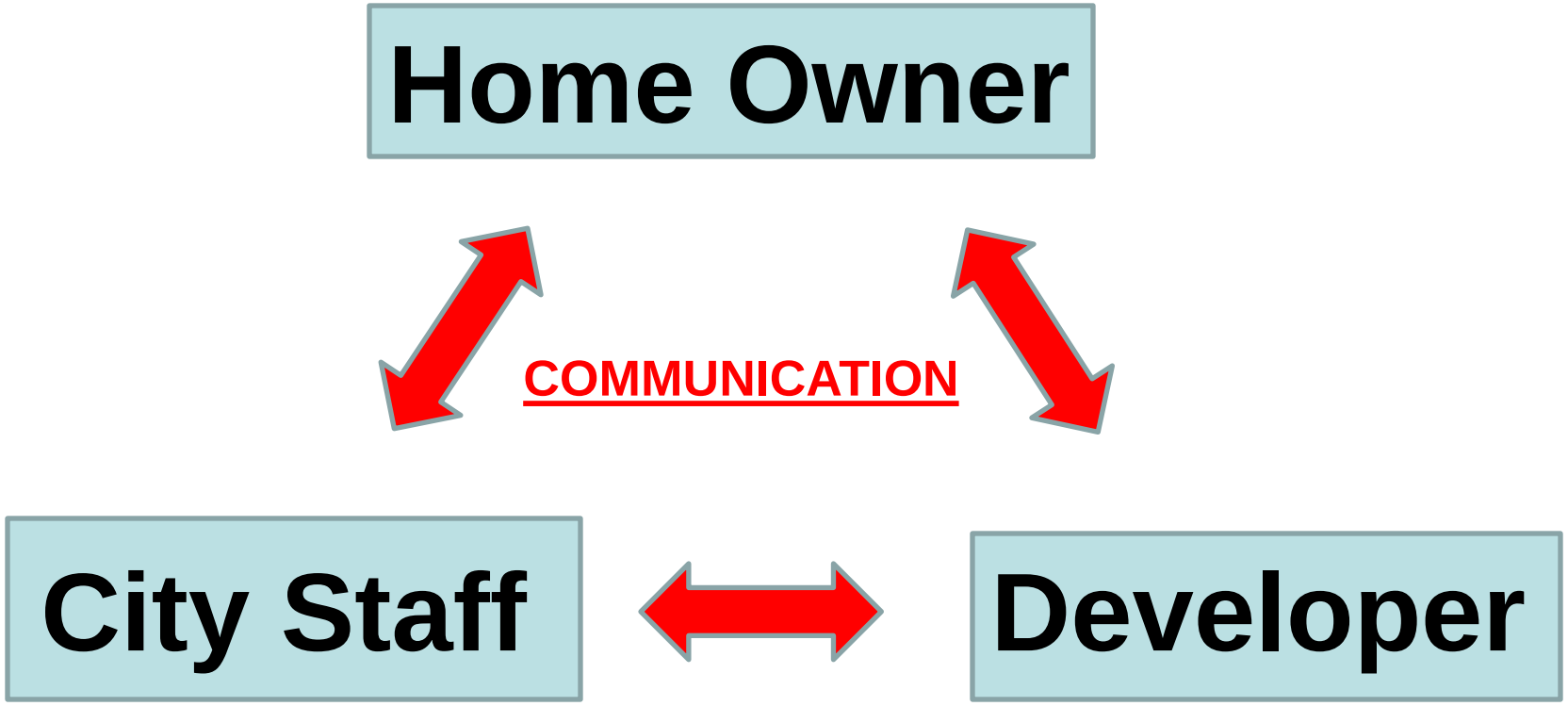
Driveway Approach

"We put a pipe under our driveway and it works great." -Local Resident

Landscaping Design in Swale

Timetables for Completion for each entity.

Future Recommendations



Questions?